

## PATENT COOPERATION TREA

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>YU-PWO-025</b>	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. <b>PCT/US2005/000083</b>	International filing date ( <i>day/month/year</i> ) <b>04/01/2005</b>	(Earliest) Priority Date ( <i>day/month/year</i> ) <b>06/01/2004</b>
Applicant <b>YALE UNIVERSITY</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b.  With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2.  **Certain claims were found unsearchable** (See Box II).

3.  **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the drawings to be published with the abstract is Figure No. 1

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

- b.  none of the figures is to be published with the abstract.

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2005/000083

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC 7 A61K31/13 A61K45/06 A61P25/18 A61P25/22 A61P25/24

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, WPI Data, PAJ, EMBASE, CHEM ABS Data, SCISEARCH, CANCERLIT, PASCAL

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	<p>CALDARONE B J ET AL: "High-affinity nicotinic acetylcholine receptors are required for antidepressant effects of amitriptyline on behavior and hippocampal cell proliferation"            BIOLOGICAL PSYCHIATRY, ELSEVIER SCIENCE, NEW YORK, NY, US, vol. 56, no. 9, 1 November 2004 (2004-11-01), pages 657-664, XP004619798            ISSN: 0006-3223            page 659, column 2, paragraph 2 -            paragraph 3            page 661 - 663, chapter "Discussion"</p> <p style="text-align: center;">-----</p> <p style="text-align: center;">-/-</p>	1-23

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

13 May 2005

Date of mailing of the international search report

08/06/2005

Name and mailing address of the ISA

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2005/000083

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/17803 A (CARY MEDICAL CORPORATION; CARY, DOUGLAS, D) 15 April 1999 (1999-04-15) page 6, line 6 - line 17	9-12,14, 15, 17-21,24 8,13,16, 22,23
Y	page 7, line 1 - line 4 page 9, line 9 - line 23 page 12, line 3 - line 15 page 13, line 3 - line 19 page 14, line 8 - page 15, line 26 Examples -----	
X	WO 99/07356 A (UNIVERSITY OF SOUTH FLORIDA RESEARCH FOUNDATION, INC; SANBERG, PAUL, R) 18 February 1999 (1999-02-18) page 18, line 15 - line 21	1-7 8-24
X	POPIK PIOTR ET AL: "Nicotine and nicotinic receptor antagonists potentiate the antidepressant-like effects of imipramine and citalopram." BRITISH JOURNAL OF PHARMACOLOGY, vol. 139, no. 6, July 2003 (2003-07), pages 1196-1202, XP002328177 ISSN: 0007-1188 page 1199, column 1, paragraph 2 - paragraph 3 page 1200, chapter "Discussion" -----	1-7 8-24

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2005/000083

### Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: **1–8**  
because they relate to subject matter not required to be searched by this Authority, namely:  
**Although claims 1–8 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.**
2.  Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

#### Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

PCT/US2005/000083

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 9917803	A	15-04-1999		AT 232384 T AU 750808 B2 AU 9601198 A BR 9812615 A CA 2305799 A1 CN 1280505 A ,C DE 69811378 D1 DE 69811378 T2 EP 1019088 A1 HK 1034662 A1 JP 2001518520 T WO 9917803 A1 US 2004044005 A1 US 6197827 B1 US 2001014678 A1		15-02-2003 25-07-2002 27-04-1999 01-08-2000 15-04-1999 17-01-2001 20-03-2003 12-02-2004 19-07-2000 08-04-2005 16-10-2001 15-04-1999 04-03-2004 06-03-2001 16-08-2001
WO 9907356	A	18-02-1999		AU 2118499 A AU 8778498 A CA 2300148 A1 EP 1011678 A1 JP 2003524573 T WO 9907356 A1 WO 9907378 A1 US 6034079 A ZA 9807182 A		01-03-1999 01-03-1999 18-02-1999 28-06-2000 19-08-2003 18-02-1999 18-02-1999 07-03-2000 15-06-1999